National Aeronautics and Space Administration

countdown

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Countdown to mission STS-117 begins tonight at 9 p.m.

◆ **Shuttle Update:** Over the weekend, Atlantis' main engines, orbital maneuvering system and forward reaction control system were pressurized for flight.

NASA will start the launch countdown for Space Shuttle Atlantis' STS-117 mission at 9 p.m. today at the T-43 hour point. The countdown includes 27 hours, 32 minutes of built-in hold time leading to a preferred launch time at approximately 7:38 p.m. Friday. The launch window extends an additional five minutes.

During the 11-day mission, Atlantis' crew will resume construction of the International Space Station, working with the station crew to install the girder-like S3/S4 truss segment, unfold a new set of solar arrays and retract one array on the starboard side of the station.

This mission is the 118th space shuttle flight, the 28th flight for Atlantis and the 21st U.S. flight to the International Space Station.

Atlantis and its crew are scheduled to land at the Shuttle Landing Facility on June 19. Atlantis' last mission was STS-115 in September 2006.

◆ **ISS Update:** The Expedition 15 crew completed the first of three planned spacewalks last week and prepared for the upcoming arrival of Space Shuttle Atlantis to the International Space Station.

On May 30, Commander Fyodor Yurchikhin and Flight Engineer Oleg Kotov stepped outside the station and installed five additional debris protection panels on the conical section of the Zvezda Service Module, the area between its large and small diameters. The aluminum debris protection panels are designed to shield the module from micrometeoroids.

Also during the spacewalk, the cosmonauts relocated a Global Positioning System antenna cable. The cosmonauts moved the GPS cable to assist the rendezvous and docking of the European Automated Transfer Vehicle later this year.

Today, Yurchikhin and Kotov are set to wear Russian spacesuits again and install 12 additional protection panels on Zvezda. They also will install a section of an Ethernet cable on the Zarya module and a Russian experiment called Biorisk on the Pirs Docking Compartment.

During the second spacewalk, Flight Engineer Suni Williams will remain aboard the station as the spacewalk choreographer, as she did for the first, advising and keeping the spacewalkers on schedule.

■ **Education Opportunity —** Webster University plans to offer a Master of Science in Computer Science degree in the KSC area starting in August. Classes will meet one night a week in a format designed for working professionals. Complete the degree in a little more than two years. No GRE is required. For more information, contact Michelle Loufek at *spacecoast@webster.edu* or call 449-4506.

■ **Feeling Stressed?** Try some massage therapy. Appointments are available from 10 a.m. to 4 p.m. Tuesday to Friday in room 1023 in the O&C Building. To schedule an appointment, contact Valerie (L.M.T. #19362) at 867-4762 or *JaramVS@kscems.ksc.nasa.gov*. Massages are $1 per minute. Gift certificates and discounted packages are also available. If there are any questions pertaining to scheduling, types of massages offered or any other issues, please call Valerie at 867-4762.

ISS crew gets ready for Atlantis' arrival

■ **NASA News —** In late May, a NASA-funded robot successfully navigated one of the world's deepest sinkholes. The mission could be a prelude to a future mission to Jupiter's moon Europa, believed to contain a liquid water ocean. The Deep Phreatic Thermal Explorer, or DEPTHX, is a 3,300-pound, computerized, underwater vehicle that makes its own decisions. With more than 100 sensors, 36 onboard computers, and 16 thrusters and actuators, it decides where to swim, which samples to collect and how to get home.

DEPTHX dove repeatedly into the depths of Mexico's mysterious Sistema Zacaton sinkhole, or cenote, testing a variety of sensors, sonars and other equipment. The robot also obtained numerous samples of water and the gooey biofilm that coated the cenote walls. Reaching depths of 1,099 feet, the battery-powered robot traveled deeper into the sinkhole than human divers could reach.

Countdown is published every Tuesday & Thursday for NASA KSC employees. Deadlines are 10 a.m. Mondays & Wednesdays. E-mail news to *anita.barrett@jbosc.ksc.nasa.gov*. For questions or information, e-mail or call 321-867-2815. You can also find *Countdown* on the Web at nasa.gov/centers/kennedy/news/countdown/countdown-toc.html.